SEQUENCE LISTING

<110> Kabushiki Kaisha Hayashibara Seibutsu Kagaku Kenkyujo

<120> Interleukin-18-binding protein

<140> PCT/JP98/05186
<141> 1998-11-18

<150> JP 247,588/98
<151> 1998-09-01

<150> JP 327,914/98
<151> 1998-11-18

<160> 41

<210> 1
<211> 164
<212> PRT
<213> Homo sapiens

<400> 1

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 1               5                  10                  15
Thr Lys Asp Pro Cys Pro Ser Gln Pro Pro Val Phe Pro Ala Ala Lys
            20                  25                  30
Gln Cys Pro Ala Leu Glu Val Thr Trp Pro Glu Val Glu Val Pro Leu
        35                  40                  45
Asn Gly Thr Leu Ser Leu Ser Cys Val Ala Cys Ser Arg Phe Pro Asn
    50                  55                  60
Phe Ser Ile Leu Tyr Trp Leu Gly Asn Gly Ser Phe Ile Glu His Leu
65                  70                  75                  80
Pro Gly Arg Leu Trp Glu Gly Ser Thr Ser Arg Glu Arg Gly Ser Thr
                85                  90                  95
Gly Thr Gln Leu Cys Lys Ala Leu Val Leu Glu Gln Leu Thr Pro Ala
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                100                 105                 110
Leu His Ser Thr Asn Phe Ser Cys Val Leu Val Asp Pro Glu Gln Val
            115                 120                 125
Val Gln Arg His Val Val Leu Ala Gln Leu Trp Ala Gly Leu Arg Ala
        130                 135                 140
Thr Leu Pro Pro Thr Gln Glu Ala Leu Pro Ser Ser His Ser Ser Pro
145                 150                 155                 160
Gln Gln Gln Gly
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<210> 2
<211> 165
<212> PRT
<213> Mus musculus

<400> 2

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  1               5                  10                  15
Asp Pro Cys Ser Ser Trp Ser Pro Ala Val Pro Thr Lys Gln Tyr Pro
             20                  25                  30
Ala Leu Asp Val Ile Trp Pro Glu Lys Glu Val Pro Leu Asn Gly Thr
         35                  40                  45
Leu Thr Leu Ser Cys Thr Ala Cys Ser Arg Phe Pro Tyr Phe Ser Ile
     50                  55                  60
Leu Tyr Trp Leu Gly Asn Gly Ser Phe Ile Glu His Leu Pro Gly Arg
 65                  70                  75                  80
Leu Lys Glu Gly His Thr Ser Arg Glu His Arg Asn Thr Ser Thr Trp
                 85                  90                  95
Leu His Arg Ala Leu Val Leu Glu Glu Leu Ser Pro Thr Leu Arg Ser
            100                 105                 110
Thr Asn Phe Ser Cys Leu Phe Val Asp Pro Gly Gln Val Ala Gln Tyr
        115                 120                 125
His Ile Ile Leu Ala Gln Leu Trp Asp Gly Leu Lys Thr Ala Pro Ser
    130                 135                 140
Pro Ser Gln Glu Thr Leu Ser Ser His Ser Pro Val Ser Arg Ser Ala
145                 150                 155                 160
Gly Pro Gly Val Ala
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<213> Homo sapiens

<220>
<221> UNSURE
<222> 6..8
<223> "Xaa" means an unidentified amino acid.

<220>
<221> UNSURE
<222> 11
<223> "Xaa" means an unidentified amino acid.

<220>
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<222> 13
<223> "Xaa" means an unidentified amino acid.

<220>
<221> UNSURE
<222> 16..17
<223> "Xaa" means an unidentified amino acid.

<400> 3
Thr Pro Val Ser Gln Xaa Xaa Xaa Ala Ala Xaa Ala Xaa Val Arg Xaa
1 5 10 15
Xaa Lys Asp Pro Cys Pro
20

<210> 4
<211> 9
<212> PRT

<213> Homo sapiens

<400> 4
Gly Ser Thr Gly Thr Gln Leu Cys Lys
1 5

<210> 5
<211> 11
<212> PRT
<213> Homo sapiens

<400> 5
Glu Arg Gly Ser Thr Gly Thr Gln Leu Cys Lys
1 5 10

<210> 6
<211> 8
<212> PRT
<213> Homo sapiens

<400> 6
Leu Trp Glu Gly Ser Thr Ser Arg
1 5

<210> 7
<211> 15
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> 6..8
<223> "Xaa" means an unidentified amino acid.

<220>
<221> UNSURE

<222> 11
<223> "Xaa" means an unidentified amino acid.

<220>
<221> UNSURE
<222> 13
<223> "Xaa" means an unidentified amino acid.

<400> 7
Thr Pro Val Ser Gln Xaa Xaa Xaa Ala Ala Xaa Ala Xaa Val Arg
1 5 10 15

<210> 8
<211> 23
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> 14
<223> "Xaa" means an unidentified amino acid.

<220>
<221> UNSURE
<222> 17..18
<223> "Xaa" means an unidentified amino acid.

<400> 8
His Val Val Leu Ala Gln Leu Trp Ala Gly Leu Arg Ala Xaa Leu Pro
1 5 10 15
Xaa Xaa Gln Glu Ala Leu Pro
20

<210> 9
<211> 10
<212> PRT

<213> Homo sapiens

<220>
<221> UNSURE
<222> 8..9
<223> "Xaa" means an unidentified amino acid.

<400> 9
Ala Leu Val Leu Glu Gln Leu Xaa Xaa Ala
1 5 10

<210> 10
<211> 29
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> 13..15
<223> "Xaa" means an unidentified amino acid.

<220>
<221> UNSURE
<222> 17..18
<223> "Xaa" means an unidentified amino acid.

<400> 10
Ala Leu Val Leu Glu Gln Leu Thr Pro Ala Leu His Xaa Xaa Xaa Phe
1 5 10 15
Xaa Xaa Val Leu Val Asp Pro Glu Gln Val Val Gln Arg
20 25

<210> 11
<211> 12
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> 5
<223> "Xaa" means an unidentified amino acid.

<220>
<221> UNSURE
<222> 10
<223> "Xaa" means an unidentified amino acid.

<400> 11
Gln Cys Pro Ala Xaa Glu Val Thr Trp Xaa Glu Val
1 5 10

<210> 12
<211> 7
<212> PRT
<213> Homo sapiens

<400> 12
Trp Glu Gly Ser Thr Ser Arg
1 5

<210> 13
<211> 6
<212> PRT
<213> Homo sapiens

<400> 13
Leu Val Asp Pro Glu Gln
1 5

<210> 14
<211> 7
<212> PRT

<213> Homo sapiens

<400> 14
Ile Glu His Leu Pro Gly Arg
1 5

<210> 15
<211> 4
<212> PRT
<213> Homo sapiens

<400> 15
His Val Val Leu
1

<210> 16
<211> 7
<212> PRT
<213> Homo sapiens

<400> 16
Glu Gln Leu Thr Pro Ala Leu
1 5

<210> 17
<211> 8
<212> PRT
<213> Homo sapiens

<400> 17
Ile Glu His Leu Pro Gly Arg Leu
1 5

<210> 18
<211> 6
<212> PRT

<213> Homo sapiens

<220>
<221> UNSURE
<222> 2
<223> "Xaa" means an unidentified amino acid.

<220>
<221> UNSURE
<222> 5
<223> "Xaa" means an unidentified amino acid.

<400> 18
Tyr Xaa Leu Gly Xaa Gly
1 5

<210> 19
<211> 4
<212> PRT
<213> Homo sapiens

<400> 19
Phe Pro Asn Phe
1

<210> 20
<211> 8
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> 2
<223> "Xaa" means an unidentified amino acid.

<220>

<221> UNSURE
<222> 5
<223> "Xaa" means an unidentified amino acid.

<220>
<221> UNSURE
<222> 7
<223> "Xaa" means an unidentified amino acid.

<400> 20
Tyr Xaa Leu Gly Xaa Gly Xaa Phe
1 5

<210> 21
<211> 7
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> 4..5
<223> "Xaa" means an unidentified amino acid.

<400> 21
Glu Val Thr Xaa Xaa Glu Val
1 5

<210> 22
<211> 8
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> 2
<223> "Xaa" means an unidentified amino acid.

<220>
<221> UNSURE
<222> 5
<223> "Xaa" means an unidentified amino acid.

<220>
<221> UNSURE
<222> 7
<223> "Xaa" means an unidentified amino acid.

<400> 22
Tyr Xaa Leu Gly Xaa Gly Xaa Phe
1 5

<210> 23
<211> 11
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> 1..2
<223> "Xaa" means an unidentified amino acid.

<220>
<221> UNSURE
<222> 5..6
<223> "Xaa" means an unidentified amino acid.

<400> 23
Xaa Xaa Val Ala Xaa Xaa Arg Phe Pro Asn Phe
1 5 10

<210> 24
<211> 8

<212> PRT

<213> Mus musculus

<400> 24

Leu Lys Glu Gly His Thr Ser Arg
  1   5

<210> 25

<211> 11

<212> PRT

<213> Mus musculus

<220>

<221> UNSURE

<222> 4

<223> "Xaa" means an unidentified amino acid.

<400> 25

Glu His Arg Xaa Thr Ser Thr Trp Leu His Arg
  1   5   10

<210> 26

<211> 10

<212> PRT

<213> Mus musculus

<220>

<221> UNSURE

<222> 4

<223> "Xaa" means an unidentified amino acid.

<220>

<221> UNSURE

<222> 8

<223> "Xaa" means an unidentified amino acid.

<400> 26
Glu His Arg Xaa Thr Ser Thr Xaa Leu His
1 5 10

<210> 27
<211> 13
<212> PRT
<213> Mus musculus

<220>
<221> UNSURE
<222> 1..8
<223> "Xaa" means an unidentified amino acid.

<400> 27
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Ala Val Pro Thr Lys
1 5 10

<210> 28
<211> 12
<212> PRT
<213> Mus musculus

<400> 28
Ala Leu Val Leu Glu Glu Leu Ser Pro Thr Leu Arg
1 5 10

<210> 29
<211> 7
<212> PRT
<213> Mus musculus

<400> 29
Ile Glu His Leu Pro Gly Arg
1 5

<210> 30
<211> 6
<212> PRT
<213> Mus musculus

<220>
<221> UNSURE
<222> 1
<223> "Xaa" means an unidentified amino acid.

<400> 30
Xaa Asp Gly Leu Lys Thr
1 5

<210> 31
<211> 4
<212> PRT
<213> Mus musculus

<400> 31
His Ile Ile Leu
1

<210> 32
<211> 492
<212> DNA
<213> Homo sapiens

<220>
<221> mat peptide
<222> 1..492

<400> 32
aca cct gtc tcg cag acc acc aca gct gcc act gcc tca gtt aga agc 48
Thr Pro Val Ser Gln Thr Thr Thr Ala Ala Thr Ala Ser Val Arg Ser
1 5 10 15

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aca aag gac ccc tgc ccc tcc cag ccc cca gtg ttc cca gca gct aag     96
Thr Lys Asp Pro Cys Pro Ser Gln Pro Pro Val Phe Pro Ala Ala Lys
            20                  25                  30

cag tgt cca gca ttg gaa gtg acc tgg cca gag gtg gaa gtg cca ctg    144
Gln Cys Pro Ala Leu Glu Val Thr Trp Pro Glu Val Glu Val Pro Leu
        35                  40                  45

aat gga acg ctg agc tta tcc tgt gtg gcc tgc agc cgc ttc ccc aac    192
Asn Gly Thr Leu Ser Leu Ser Cys Val Ala Cys Ser Arg Phe Pro Asn
    50                  55                  60

ttc agc atc ctc tac tgg ctg ggc aat ggt tcc ttc att gag cac ctc    240
Phe Ser Ile Leu Tyr Trp Leu Gly Asn Gly Ser Phe Ile Glu His Leu
65                  70                  75                  80

cca ggc cga ctg tgg gag ggg agc acc agc cgg gaa cgt ggg agc aca    288
Pro Gly Arg Leu Trp Glu Gly Ser Thr Ser Arg Glu Arg Gly Ser Thr
                85                  90                  95

ggt acg cag ctg tgc aag gcc ttg gtg ctg gag cag ctg acc cct gcc    336
Gly Thr Gln Leu Cys Lys Ala Leu Val Leu Glu Gln Leu Thr Pro Ala
            100                 105                 110

ctg cac agc acc aac ttc tcc tgt gtg ctc gtg gac cct gaa cag gtt    384
Leu His Ser Thr Asn Phe Ser Cys Val Leu Val Asp Pro Glu Gln Val
        115                 120                 125

gtc cag cgt cac gtc gtc ctg gcc cag ctc tgg gct ggg ctg agg gca    432
Val Gln Arg His Val Val Leu Ala Gln Leu Trp Ala Gly Leu Arg Ala
    130                 135                 140

acc ttg ccc ccc acc caa gaa gcc ctg ccc tcc agc cac agc agt cca    480
Thr Leu Pro Pro Thr Gln Glu Ala Leu Pro Ser Ser His Ser Ser Pro
145                 150                 155                 160
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cag cag cag ggt                                                        492
Gln Gln Gln Gly

<210> 33
<211> 495
<212> DNA
<213> Mus musculus

<220>
<221> mat peptide
<222> 1..495

<400> 33
aca tct gca cct cag aca act gcc act gtc tta act gga agc tca aaa      48
Thr Ser Ala Pro Gln Thr Thr Ala Thr Val Leu Thr Gly Ser Ser Lys
  1               5                  10                  15

gac cca tgc tct tcc tgg tct cca gca gtc cca act aag cag tac cca      96
Asp Pro Cys Ser Ser Trp Ser Pro Ala Val Pro Thr Lys Gln Tyr Pro
             20                  25                  30

gca ctg gat gtg att tgg cca gaa aaa gaa gtg cca ctg aat gga act     144
Ala Leu Asp Val Ile Trp Pro Glu Lys Glu Val Pro Leu Asn Gly Thr
         35                  40                  45

ctg acc ttg tcc tgt act gcc tgc agc cgc ttc ccc tac ttc agc atc     192
Leu Thr Leu Ser Cys Thr Ala Cys Ser Arg Phe Pro Tyr Phe Ser Ile
     50                  55                  60

ctc tac tgg ctg ggc aat ggt tcc ttc att gag cac ctt cca ggc cgg     240
Leu Tyr Trp Leu Gly Asn Gly Ser Phe Ile Glu His Leu Pro Gly Arg
 65                  70                  75                  80

ctg aag gag ggc cac aca agt cgc gag cac agg aac aca agc acc tgg     288
Leu Lys Glu Gly His Thr Ser Arg Glu His Arg Asn Thr Ser Thr Trp
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85 90 95

ctg cac agg gcc ttg gtg ctg gaa gaa ctg agc ccc acc cta cga agt 336
Leu His Arg Ala Leu Val Leu Glu Glu Leu Ser Pro Thr Leu Arg Ser
100 105 110

acc aac ttc tcc tgt ttg ttt gtg gat cct gga caa gtg gcc cag tat 384
Thr Asn Phe Ser Cys Leu Phe Val Asp Pro Gly Gln Val Ala Gln Tyr
115 120 125

cac atc att ctg gcc cag ctc tgg gat ggg ttg aag aca gct ccg tcc 432
His Ile Ile Leu Ala Gln Leu Trp Asp Gly Leu Lys Thr Ala Pro Ser
130 135 140

cct tct caa gaa acc ctc tct agc cac agc cca gta tcc aga tca gca 480
Pro Ser Gln Glu Thr Leu Ser Ser His Ser Pro Val Ser Arg Ser Ala
145 150 155 160

ggc cca ggg gtt gca 495
Gly Pro Gly Val Ala
165

<210> 34
<211> 411
<212> DNA
<213> Homo sapiens

<400> 34
aca cct gtc tcg cag acc acc aca gct gcc act gcc tca gtt aga agc 48
Thr Pro Val Ser Gln Thr Thr Thr Ala Ala Thr Ala Ser Val Arg Ser
1 5 10 15

aca aag gac ccc tgc ccc tcc cag ccc cca gtg ttc cca gca gct aag 96
Thr Lys Asp Pro Cys Pro Ser Gln Pro Pro Val Phe Pro Ala Ala Lys
20 25 30

```
cag tgt cca gca ttg gaa gtg acc tgg cca gag gtg gaa gtg cca ctg    144
Gln Cys Pro Ala Leu Glu Val Thr Trp Pro Glu Val Glu Val Pro Leu
         35                  40                  45

aat gga acg ctg agc tta tcc tgt gtg gcc tgc agc cgc ttc ccc aac    192
Asn Gly Thr Leu Ser Leu Ser Cys Val Ala Cys Ser Arg Phe Pro Asn
     50                  55                  60

ttc agc atc ctc tac tgg ctg ggc aat ggt tcc ttc att gag cac ctc    240
Phe Ser Ile Leu Tyr Trp Leu Gly Asn Gly Ser Phe Ile Glu His Leu
 65                  70                  75                  80

cca ggc cga ctg tgg gag ggg agc acc agc cgg gaa cgt ggg agc aca    288
Pro Gly Arg Leu Trp Glu Gly Ser Thr Ser Arg Glu Arg Gly Ser Thr
                 85                  90                  95

ggt acg cag ctg tgc aag gcc ttg gtg ctg gag cag ctg acc cct gcc    336
Gly Thr Gln Leu Cys Lys Ala Leu Val Leu Glu Gln Leu Thr Pro Ala
            100                 105                 110

ctg cac agc acc aac ttc tcc tgt gtg ctc gtg gac cct gaa cag gtt    384
Leu His Ser Thr Asn Phe Ser Cys Val Leu Val Asp Pro Glu Gln Val
        115                 120                 125

gtc cag cgt cac gtc gtc ctg gcc cag                               411
Val Gln Arg His Val Val Leu Ala Gln
    130                 135
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<210> 35
<211> 216
<212> DNA
<213> Homo sapiens

<400> 35
tgtgtgactg gagaagagga cgttgtcaca gataaagagc caggctcacc agctcctgac 60

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gcatgcatc atg acc atg aga cac aac tgg aca cca gac ctc agc cct ttg  111
          Met Thr Met Arg His Asn Trp Thr Pro Asp Leu Ser Pro Leu
            1               5                  10

tgg gtc ctg ctc ctg tgt gcc cac gtc gtc act ctc ctg gtc aga gcc  159
Trp Val Leu Leu Leu Cys Ala His Val Val Thr Leu Leu Val Arg Ala
 15                  20                  25                  30

aca cct gtc tcg cag acc acc aca gct gcc act gcc tca gtt aga agc  207
Thr Pro Val Ser Gln Thr Thr Thr Ala Ala Thr Ala Ser Val Arg Ser
                35                  40                  45

aca aag gac                                                     216
Thr Lys Asp
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<210> 36
<211> 234
<212> DNA
<213> Homo sapiens

<400> 36

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ttc tcc tgt gtg ctc gtg gac cct gaa cag gtt gtc cag cgt cac gtc   48
Phe Ser Cys Val Leu Val Asp Pro Glu Gln Val Val Gln Arg His Val
  1               5                  10                  15

gtc ctg gcc cag ctc tgg gct ggg ctg agg gca acc ttg ccc ccc acc   96
Val Leu Ala Gln Leu Trp Ala Gly Leu Arg Ala Thr Leu Pro Pro Thr
             20                  25                  30

caa gaa gcc ctg ccc tcc agc cac agc agt cca cag cag cag ggt       141
Gln Glu Ala Leu Pro Ser Ser His Ser Ser Pro Gln Gln Gln Gly
         35                  40                  45

taagactcag cacagggcca gcagcagcac aaccttgacc agagcttggg tcctacctgt  201

ctacctggag tgaacagtcc ctgactgcct gta                            234
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<210> 37
<211> 744
<212> DNA
<213> Homo sapiens

<220>
<221> mat peptide
<222> 160..651

<400> 37
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gcatgcatc atg acc atg aga cac aac tgg aca cca gac ctc agc cct ttg 111
Met Thr Met Arg His Asn Trp Thr Pro Asp Leu Ser Pro Leu
-30 -25 -20

tgg gtc ctg ctc ctg tgt gcc cac gtc gtc act ctc ctg gtc aga gcc 159
Trp Val Leu Leu Leu Cys Ala His Val Val Thr Leu Leu Val Arg Ala
-15 -10 -5

aca cct gtc tcg cag acc acc aca gct gcc act gcc tca gtt aga agc 207
Thr Pro Val Ser Gln Thr Thr Thr Ala Ala Thr Ala Ser Val Arg Ser
1 5 10 15

aca aag gac ccc tgc ccc tcc cag ccc cca gtg ttc cca gca gct aag 255
Thr Lys Asp Pro Cys Pro Ser Gln Pro Pro Val Phe Pro Ala Ala Lys
20 25 30

cag tgt cca gca ttg gaa gtg acc tgg cca gag gtg gaa gtg cca ctg 303
Gln Cys Pro Ala Leu Glu Val Thr Trp Pro Glu Val Glu Val Pro Leu
35 40 45

aat gga acg ctg agc tta tcc tgt gtg gcc tgc agc cgc ttc ccc aac 351
Asn Gly Thr Leu Ser Leu Ser Cys Val Ala Cys Ser Arg Phe Pro Asn
50 55 60

ttc agc atc ctc tac tgg ctg ggc aat ggt tcc ttc att gag cac ctc 399
Phe Ser Ile Leu Tyr Trp Leu Gly Asn Gly Ser Phe Ile Glu His Leu
65 70 75 80

cca ggc cga ctg tgg gag ggg agc acc agc cgg gaa cgt ggg agc aca 447
Pro Gly Arg Leu Trp Glu Gly Ser Thr Ser Arg Glu Arg Gly Ser Thr
85 90 95

ggt acg cag ctg tgc aag gcc ttg gtg ctg gag cag ctg acc cct gcc 495
Gly Thr Gln Leu Cys Lys Ala Leu Val Leu Glu Gln Leu Thr Pro Ala
100 105 110

ctg cac agc acc aac ttc tcc tgt gtg ctc gtg gac cct gaa cag gtt 543
Leu His Ser Thr Asn Phe Ser Cys Val Leu Val Asp Pro Glu Gln Val
115 120 125

gtc cag cgt cac gtc gtc ctg gcc cag ctc tgg gct ggg ctg agg gca 591
Val Gln Arg His Val Val Leu Ala Gln Leu Trp Ala Gly Leu Arg Ala
130 135 140

acc ttg ccc ccc acc caa gaa gcc ctg ccc tcc agc cac agc agt cca 639
Thr Leu Pro Pro Thr Gln Glu Ala Leu Pro Ser Ser His Ser Ser Pro
145 150 155 160

cag cag cag ggt taagactcag cacagggcca gcagcagcac aaccttgacc 691
Gln Gln Gln Gly

agagcttggg tcctacctgt ctacctggag tgaacagtcc ctgactgcct gta 744

<210> 38
<211> 351
<212> DNA
<213> Mus musculus

<400> 38

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gca gtc cca act aag cag tac cca gca ctg gat gtg att tgg cca gaa      48
Ala Val Pro Thr Lys Gln Tyr Pro Ala Leu Asp Val Ile Trp Pro Glu
  1               5                  10                  15

aaa gaa gtg cca ctg aat gga act ctg acc ttg tcc tgt act gcc tgc      96
Lys Glu Val Pro Leu Asn Gly Thr Leu Thr Leu Ser Cys Thr Ala Cys
            20                  25                  30

agc cgc ttc ccc tac ttc agc atc ctc tac tgg ctg ggc aat ggt tcc     144
Ser Arg Phe Pro Tyr Phe Ser Ile Leu Tyr Trp Leu Gly Asn Gly Ser
        35                  40                  45

ttc att gag cac ctt cca ggc cgg ctg aag gag ggc cac aca agt cgc     192
Phe Ile Glu His Leu Pro Gly Arg Leu Lys Glu Gly His Thr Ser Arg
    50                  55                  60

gag cac agg aac aca agc acc tgg ctg cac agg gcc ttg gtg ctg gaa     240
Glu His Arg Asn Thr Ser Thr Trp Leu His Arg Ala Leu Val Leu Glu
65                  70                  75                  80

gaa ctg agc ccc acc cta cga agt acc aac ttc tcc tgt ttg ttt gtg     288
Glu Leu Ser Pro Thr Leu Arg Ser Thr Asn Phe Ser Cys Leu Phe Val
                85                  90                  95

gat cct gga caa gtg gcc cag tat cac atc att ctg gcc cag ctc tgg     336
Asp Pro Gly Gln Val Ala Gln Tyr His Ile Ile Leu Ala Gln Leu Trp
            100                 105                 110

gat ggg ttg aag aca                                                 351
Asp Gly Leu Lys Thr
        115
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<210> 39
<211> 336
<212> DNA
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<400> 39

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cacagacacc agacttgctt gcaagtcatc atg acc atg aga cac tgc tgg aca 174
Met Thr Met Arg His Cys Trp Thr
1 5

gca ggc ccc agt tct tgg tgg gtc ctg ctt ttg tat gtc cat gtc att 222
Ala Gly Pro Ser Ser Trp Trp Val Leu Leu Leu Tyr Val His Val Ile
10 15 20

ttg gcc aga gcc aca tct gca cct cag aca act gcc act gtc tta act 270
Leu Ala Arg Ala Thr Ser Ala Pro Gln Thr Thr Ala Thr Val Leu Thr
25 30 35 40

gga agc tca aaa gac cca tgc tct tcc tgg tct cca gca gtc cca act 318
Gly Ser Ser Lys Asp Pro Cys Ser Ser Trp Ser Pro Ala Val Pro Thr
45 50 55

aag cag tac cca gca ctg 336
Lys Gln Tyr Pro Ala Leu
60

<210> 40
<211> 253
<212> DNA
<213> Mus musculus

<400> 40

gat cct gga caa gtg gcc cag tat cac atc att ctg gcc cag ctc tgg 48
Asp Pro Gly Gln Val Ala Gln Tyr His Ile Ile Leu Ala Gln Leu Trp
1 5 10 15

gat ggg ttg aag aca gct ccg tcc cct tct caa gaa acc ctc tct agc 96
Asp Gly Leu Lys Thr Ala Pro Ser Pro Ser Gln Glu Thr Leu Ser Ser
20 25 30

cac agc cca gta tcc aga tca gca ggc cca ggg gtt gca taaagccaac 145
His Ser Pro Val Ser Arg Ser Ala Gly Pro Gly Val Ala
35 40 45

cacaccatga ccttgaccag agcctggctc tcatctacct ggagggtgga gtctacacca 205

taggctgtga ttgcctttct gctgctgaac ctcaaactca agcttcac 253

<210> 41
<211> 847
<212> DNA
<213> Mus musculus

<220>
<221> mat peptide
<222> 235..729

<400> 41
ctgagcctta gagctccaag aagctattcg gggcttagga gccagaagct gactgctgcc 60

tgcccttccc agaaggaggc tggcaagctg gcaaacggac tgttgcttcc cagaggaagt 120

cacagacacc agacttgctt gcaagtcatc atg acc atg aga cac tgc tgg aca 174
Met Thr Met Arg His Cys Trp Thr
-25

gca ggc ccc agt tct tgg tgg gtc ctg ctt ttg tat gtc cat gtc att 222
Ala Gly Pro Ser Ser Trp Trp Val Leu Leu Leu Tyr Val His Val Ile
-20 -15 -10 -5

ttg gcc aga gcc aca tct gca cct cag aca act gcc act gtc tta act 270
Leu Ala Arg Ala Thr Ser Ala Pro Gln Thr Thr Ala Thr Val Leu Thr

```
                1               5                  10

gga agc tca aaa gac cca tgc tct tcc tgg tct cca gca gtc cca act    318
Gly Ser Ser Lys Asp Pro Cys Ser Ser Trp Ser Pro Ala Val Pro Thr
        15                  20                  25

aag cag tac cca gca ctg gat gtg att tgg cca gaa aaa gaa gtg cca    366
Lys Gln Tyr Pro Ala Leu Asp Val Ile Trp Pro Glu Lys Glu Val Pro
     30                  35                  40

ctg aat gga act ctg acc ttg tcc tgt act gcc tgc agc cgc ttc ccc    414
Leu Asn Gly Thr Leu Thr Leu Ser Cys Thr Ala Cys Ser Arg Phe Pro
 45                  50                  55                  60

tac ttc agc atc ctc tac tgg ctg ggc aat ggt tcc ttc att gag cac    462
Tyr Phe Ser Ile Leu Tyr Trp Leu Gly Asn Gly Ser Phe Ile Glu His
                 65                  70                  75

ctt cca ggc cgg ctg aag gag ggc cac aca agt cgc gag cac agg aac    510
Leu Pro Gly Arg Leu Lys Glu Gly His Thr Ser Arg Glu His Arg Asn
             80                  85                  90

aca agc acc tgg ctg cac agg gcc ttg gtg ctg gaa gaa ctg agc ccc    558
Thr Ser Thr Trp Leu His Arg Ala Leu Val Leu Glu Glu Leu Ser Pro
        95                  100                 105

acc cta cga agt acc aac ttc tcc tgt ttg ttt gtg gat cct gga caa    606
Thr Leu Arg Ser Thr Asn Phe Ser Cys Leu Phe Val Asp Pro Gly Gln
    110                 115                 120

gtg gcc cag tat cac atc att ctg gcc cag ctc tgg gat ggg ttg aag    654
Val Ala Gln Tyr His Ile Ile Leu Ala Gln Leu Trp Asp Gly Leu Lys
125                 130                 135                 140

aca gct ccg tcc cct tct caa gaa acc ctc tct agc cac agc cca gta    702
Thr Ala Pro Ser Pro Ser Gln Glu Thr Leu Ser Ser His Ser Pro Val
```

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            145                 150                 155

tcc aga tca gca ggc cca ggg gtt gca taaagccaac cacaccatga      749
Ser Arg Ser Ala Gly Pro Gly Val Ala
        160                 165

ccttgaccag agcctggctc tcatctacct ggagggtgga gtctacacca taggctgtga  809

ttgcctttct gctgctgaac ctcaaactca agcttcac                          847
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